



APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
08/547,904	10/25/95	SEKIYA	T 2271/45006-A
EXAMINER			

E1M1/1125

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ART UNIT	PAPER NUMBER

2108

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DATE MAILED: 11/25/97

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

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**OFFICE ACTION SUMMARY**

Responsive to communication(s) filed on 9/05/97

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

Shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 36(a).

**Disposition of Claims**

Claim(s) 1, 3-12 is/are pending in the application.  
Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
Claim(s) \_\_\_\_\_ is/are allowed.  
Claim(s) 1, 3-12 is/are rejected.  
Claim(s) \_\_\_\_\_ is/are objected to.  
Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

**Disposition of Papers**

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☒ received in Application No. (Series Code/Serial Number) 08/162650

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

Notice of Reference Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

file copy

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

2. Claims 1<sup>3,4</sup>, 5, 6, 9-12 are rejected under 35 U.S.C. § 103 as being unpatentable over Kashimura et al. (5,245,361) in view of Cowger et al. (4,931,811).

Kashimura et al. disclose all basic claimed features of the invention of a method for recording and an ink jet recorder comprising a recording head unit 10 (Fig. 17) containing energization part to form ink jet hence suggesting the commonly incorporation of ink passage and nozzles in the head, an ink inlet 312k including filter means 311d, an ink reservoir 312 holding a material 312a infiltrated with ink, a carriage 20 having a base part carrying an interconnection pattern 20<sup>a</sup> for establishing electrical contact with the head and a positioning part 20b (Fig. 5A) for determining the position of the head with respect to the carriage, wherein the head carries a first connection means 311a and a first guide part 311b connecting with a second connection means of

*an interconnection pattern 20<sup>a</sup> of unit*

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elastic seal 312m and a second guide part 312b respectively on the reservoir which suggests to one skilled in the art that the reservoir connected to the recording head is removable therefrom.

Kashimura et al. do not disclose the filter to be made of stainless steel, a vent on the reservoir closed by a removable seal member of a screw and of a rigid projection.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a filter of stainless steel material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Nevertheless, Cowger et al. disclose an ink jet recorder wherein a wire mesh filter 26 is utilized in order to prevent air from an ink reservoir being drawn down to a recording head; therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to incorporate the wire mesh filter of Cowger et al. into Kashimura et al. for the purpose of preventing air bubbles and hence dust particles from entering the recording head, as recognized by both teachings.

Cowger et al. also disclose a vent 30 closed by a removable seal member for supplying and replenishing air to the ink reservoir; moreover, to modify the seal member to be a screw or a rigid projection would have been obvious and only involve routine skill in the art to obtain an equivalent element of a removable seal member as taught by Cowger et al. Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to

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incorporate the vent with the removable seal member of Cowger et al. in Kashimura et al. for the purpose of providing ambient air communication to the ink reservoir.

3. Claims ~~3~~, 4 are rejected under 35 U.S.C. § 103 as being unpatentable over Kashimura et al. in view of Cowger et al. as applied to claim 1 above, and further in view of Kurata et al. (5,138,342).

Kashimura et al. as modified by Cowger et al. further do not disclose the carriage including a cover part having an interconnection pattern, mounted on and rotatable with respect to a base part, wherein the cover part urges the recording head upon the base part establishing electrical contact with the head.

Kurata et al. disclose an ink jet recorder comprises a carriage 2 (i.e. Fig. 8A) including a lever mounted on and rotatable through shaft 9 with respect to a base part of the carriage for urging a recording head onto the base, wherein the base part carrying a positioning part 2c for forming engagement with the head on which nozzle is formed, and a side part of the carriage carrying an interconnection pattern 6 for establishing electrical contact with the head.

Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to incorporate a lever as taught Kurata et al. functioning as a cover to a base part of the carriage as claimed for the purposes of urging the head onto the carriage and causing electrical contact between the head and the carriage. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to position the

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interconnection pattern on the lever or cover part of the carriage and to position a correspondent pattern on the recording head of Kurata et al. for the purpose of joining the patterns for electrical connection, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

4. Claims <sup>5 cancelled</sup> (7, 8) are rejected under 35 U.S.C. § 103 as being unpatentable over Kashimura et al. in view of Cowger et al. as applied to claim 1 above, and further in view of Hildenbrand et al. (3,708,798).

Kashimura et al. as modified by Cowger et al. further do not disclose a tubular member having a sharp point for breaking a seal membrane of an ink reservoir.

Hildenbrand et al. disclose an ink jet recorder comprising a needle 41 or a tubular member having sharp point for breaking a seal membrane 42 of an ink reservoir in order to generate ink flow to a recording head. Therefore, it would have been obvious at the time the invention was made to one of ordinary skill in the art to incorporate the utilization of the tubular member for breaking the seal membrane as taught by Hildenbrand et al. in the pertinent art of Kashimura as modified for the purpose of establishing in flow for recording operation.

#### ***Response to Arguments***

5. Applicant's arguments filed 9/05/97 have been fully considered but they are not persuasive.

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In response to applicant's argument that Kashimura et al intention is to connect the head and the reservoir permanently without requiring the use of adhesive, therefore Kashimura et al do not teach an ink reservoir unit mounted to the recording head unit in detachable engagement; the examiner disagrees. Kashimura et al teach that in connecting the head 311 and the ink tank 312, the head is urged into the ink tank as shown by arrow A in Fig. 17, at this point, "the wall portion provided with the opening 312b of the ink tank 312 is expanded outwardly due to engagement of the projection 311b" (col. 18, lines 1-3); one of ordinary skill in the art would conclude that since the wall is flexible, the ink tank is detachable from the head by expanding the wall portion outwardly to meet the limitation as claimed.

Applicant's argument with respect to Cowger et al has just been traversed above in view of Kashimura et al teaching expandable wall portion to accommodate the ink tank projection.

Applicant's argument with respect to Kasugayama et al is rendered moot due to the withdrawal of the 35 U.S.C. 102 rejection; however amended claim 12 is now rejected under 35 U.S.C. 103 as being unpatentable over Kashimura et al in view of Cowger et al as stated in the rejection above.

### *Conclusion*

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for response to this final action is set to expire THREE MONTHS from the date of this action. In the event a first response is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. Le whose telephone number is (703) 308-0750.

NL  
November 22, 1997

  
N. LE  
PRIMARY EXAMINER  
GROUP 2100